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THE AUSTRALIAN BANK CRASHES OF THE 1890S REVISITED

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The Australian Bank Crashes of the 1890s Revisited

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Abstract

Financial crises occurred in many countries in the early 1890s, most of which were connected to international capital flows. Australia, a major importer of capital, had difficulty borrowing after the Baring crisis. This paper argues that the consequences of the banking crash in early 1893 were shaped by local factors. A fortuitous legislative change averted a calamity by allowing for reconstruction rather than liquidation of banks; economic activity was depressed as banks became more conservative lenders; and the reconstructions reduced the wealth of domestic bank creditors and shareholders. We conclude by noting that there was no targeted policy response in the short or medium term to prevent a recurrence of such an event.

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Introduction

Previous studies of the Australian bank crash of the 1890s have taken a local view of the episode within the context of a surge in and then cessation of British capital inflow. Contemporary writers drew a link between the inflow of British capital and a speculative bubble in real estate, mining shares and farm property. They identified the tightening of British credit and end of the land boom as the tipping point for the stability of the banking system. Journals such as the Australasian Insurance and Banking Record provide a detailed chronology of the failure and liquidation of fringe banks, then contagion leading to the suspension and reconstruction of most banks. Later writers followed a number of lines of enquiry. Some have highlighted corruption amongst the colony of Victoria's political and mercantile elite and weaknesses of corporate governance within businesses at the height of the boom in "Marvellous Melbourne". Others have delved into decision-making within banks particularly with respect to liquidity and capital ratios, the quality of lending decisions and prudential controls. The efficacy of the decisions taken by the Victorian Banking Association and by governments in Victoria, New South Wales and Queensland in preventing the crisis provided another strand to the literature. Interpretation of the reasons for failure remains a contested domain.1

The recent global financial crises have generated a renewed interest in the systemic instability of financial systems across time, space and regulatory regimes. There is a search for commonalities and overarching explanations², and in more detailed analysis of similarities and linkages with earlier events³. Richard Grossman's recent study of the evolution of banking suggests a high degree of commonality across countries with respect to the life cycle of the industry: crises, bailouts, merger movements and regulation.⁴ The

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¹ For a review of the historiography see David Merrett, "Australian Banking Practice and the Crisis of 1893", *Australian Economic History Review* 24 (March1989): 11; and "Preventing Bank Failure: Could the Commercial Bank of Australia have been saved by its Peers?" *Victorian Historical Journal* 64 (October 1993),122-25; and Charles R. Hickson and John D. Turner, "Free Banking Gone Awry?: The Australian Banking Crisis of 1893", *Financial History Review* (October 2002): 33.

² Carmen M. Reinhart and Kenneth S. Rogoff, *This Time It Is Different: Eight Centuries of Financial Follies* (Princeton and Oxford, 2009).

³ Robert F. Bruner and Sean D. Carr, *The Panic of 1907: Lessons Learned from the Markets Perfect Storm*, (New Jersey, 2007); William A. Allen and Richhild Moessner, "The International Propagation of the Financial Crisis of 2008 and a Comparison with 1931", *Financial History Review*, 19 (August 2012): 123-47.

⁴ Richard S. Grossman, *Unsettled Accounted: The Evolution of Banking in the Industrialized World Since 1800* (Princeton and Oxford, 2010).

Australia banking crisis of 1893 occurred around the same time as a series of banking, currency and sovereign debt crises in many other countries. Bordo and Landon-Lane note that these crises were connected and there was "a significant risk of a global financial crisis". However, Australia was an outlier in many respects. It had not been prone to serial crises. The 1890s was a spectacular exception. A comparative perspective shows that this was a focused affair: a banking crisis. There was no associated crisis in sovereign debt markets, yields on New South Wales' stock spiked only 46 basis points in April. By comparison, the value of Argentina's public debt fell by more than 60 per cent during the Baring crisis. Currency markets and government finances remained on a remarkably even keel throughout.

This paper will focus on the local character of the crisis. Three issues will be discussed. The first concerns the path to the closure of most Australian banks within a six week period between Easter in April and mid-May of 1893. The question is not why did a wide spread banking collapse occur but why did the episode unfold as it did and when it did. We shall argue that the course of the crisis, particularly the emergence of contagion and an acceptance of reconstruction as a mode of work out, was influenced by the amendments made to the *Companies Acts* in 1891 and 1892 and their interpretation by the Courts. Without this change in the law dealing with the winding up of companies only several months prior to the bank crashes an alternative outcome was possible that would have had far more calamitous impacts. The second question is the link between the bank crashes and the depression experienced in the real economy. Recent research suggests that by some measures the 1890s depression was deeper and longer lasting than that of the 1930s. The 1890s depression differed from the 1930s in that it was preceded by a much larger increase in credit and then experienced a major banking collapse. ¹⁰ In the 1890s nearly all of the banks which suspended re-opened after "reconstruction". We will argue that the impact of

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⁵ Michael D Bordo and John S Landon-Lane, "The Global Financial Crisis: Is It Unprecedented?", EWC/KDI Conference, Honolulu, Hawaii, 19-20 (August 2010) Appendix.11 http://www.ssc.wisc.edu/~mchinn/01Bordo-Lane-Au...; Reinhart and Rogoff, This Time It Is Different, Appendix A.3, 344-45.

⁶ Bordo and Landon-Lane, "Global Financial Crisis", 6.

⁷ New South Wales Statistical Register 1893, Public Finance, (Sydney,1894): Table 21, 308.

⁸ Economist, 6 June 1891, cited in H. S. Ferns, *Britain and Argentina in the Nineteenth Century* (Oxford,1960): 461.

⁹ E. A. Boehm, *Prosperity and Depression in Australia 1887-1897*, (Oxford,1971): 315-6; Alan Barnard, "Government Finance", in Wray Vamplew, ed, *Australians: Historical Statistics*, (Sydney,1987): 254-87.

¹⁰ Chay Fisher and Christopher Kent, *Two Depressions, One Banking Collapse*, Research Discussion Paper 1999-06, Reserve Bank of Australia (Sydney, 1999).

the banking crash on the real economy worked through a combination of expenditure and wealth effects. The latter, which fell heavily on depositors and shareholders, were mitigated by being borne by non-residents. The third question is what was the short and medium term response to this crisis? The short and puzzling answer is surprisingly little. We offer some speculative answers for the failure to address the specific issue of prudential standards and regulatory oversight.

What happened to failed banks?

The back story is of a sustained capital influx through public and private channels which flowed into capital formation and created an asset bubble. By the 1880s speculation was rife in urban real estate, particularly in Melbourne the capital of Victoria, and there was evidence of over investment in the pastoral industry and in public utilities. Australian financial intermediaries, the most important of which were note issuing banks known colloquially as trading banks, raised funds domestically and in Britain which they lent with abandon. Specialist intermediaries such as land banks, building societies and pastoral finance companies, who borrowed from the trading banks as well as collecting deposits and issuing debentures, funneled credit into building and the pastoral industry. The ratio of credit to GDP rose strongly as the balance sheets of both the intermediaries and their customers became highly leveraged.

The boom had run its course by the late 1880s. Falling asset prices, compounded by shrinking commodity prices, increased pressure on borrowers, whose defaults undermined the stability of lending institutions. Widespread failures were evident amongst the land banks and building societies through 1891 and 1892 intensified the fears of trading bank depositors. The suspension and liquidation of the Mercantile Bank of Australia and Federal Bank of Australia, both of which were closely linked to building societies, on the 5th March 1892 and the 28th January 1893 respectively, heightened anxiety about the safety of the other 22 banks. Many bank shares carried additional liability, some of which would be triggered by suspension. Bank shareholders began dumping stock long before depositors began to look for safer waters. A number of the trading banks were heavily exposed to the building societies. Those banks felt increasing strain in late 1892 and early 1893 losing deposits and gold coin, a dangerous position as their notes were fully convertible. The Commercial Bank of Australia, the largest bank in the colony of Victoria, whose capital

¹¹ S. J. Butlin, Australia and New Zealand Bank: The Bank of Australasia and the Union Bank of Australia Limited, 1828-1951 (London, 1961): 288; N. G. Butlin, Investment in Australian Economic Development 1861-1900 (Cambridge, 1964): 428-30.

Melbourne was the epicenter of the speculative building boom, shut on the 5th of April 1893. Within six weeks, 13 of Australia's 22 trading banks had suspended.

What happened next? All of the banks had re-opened within a few months of suspending. ¹² Almost immediately they were accepting new business as trustees anticipating the formal reconstruction whereby the "old" bank became a "new" bank. The bargain with creditors was that instead of liquidation they accepted a conversion of their deposits into longer-dated securities and, in some cases, preference shares. The shareholders had to meet fresh calls for capital and their dividends ranked below payment of interest on deposit claims and preference shares. ¹³ Poorly performing loans and worthless advances were heavily written off at the time of suspension. However, there was no credit crunch. There was no spike in interest rates, ¹⁴ and banks honoured one another's checks and bank notes through clearing exchanges. By mid-1893 banking went on as usual.

This favourable outcome was not inevitable. Some banks were insolvent in early 1893 but those which were not possessed little defense against withdrawals by depositors wanting the security of gold. Panic withdrawals of deposits and gold after the closure of the Commercial triggered the suspension of other banks. Bankers also suspended in anticipation of the withdrawal of British deposits, some 40 per cent of the total, much of which matured at the end of the Scottish Whitsun term in mid-May. The suspension of the Commercial and the likelihood of wholesale withdrawal of British deposits bookended the period in which banks were most like to suspend.

The likelihood of suspension by banks under pressure was increased as no colonial governments had the financial capacity to mount a "bailout" in the modern sense. The Associated Banks of Victoria did offer support at the margin for banks by liquidating good quality assets but could not offer a general lender of last resort mechanism. ¹⁶ Governments in each of the three colonies where bank failures occurred undertook a variety of measures to prevent or alleviate the crash. The newly appointed Victorian government ¹⁷, or particularly

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¹² Butlin, Australia and New Zealand Bank, 301.

¹³ For a summary of the initial schemes see *Australasian Insurance and Banking Record* (July, 1893): 661-63 & 688-91.

¹⁴ S. J. Butlin, A. R. Hall and R. C. White, *Australian Banking and Monetary Statistics 1817-1945* (Sydney, 1971): Table 51, 494.

¹⁵ Boehm, *Prosperity and Depression*, Table 67, 279; J. D. Bailey, "Australian Borrowing in Scotland in the Nineteenth Century", *Economic History Review*, 2nd series, xii (December, 1959): 268-79.

¹⁶ Merrett, "Preventing Bank Failure", 129-30.

¹⁷ The Patterson Ministry assumed office on the 23 of January 1893. Colin A. Hughes and B. D. Graham, *A Handbook of Australian Government and Politics, 1890-1964* (Canberra, 1968): 105-6.

the Treasurer, G. D. Carter, was anxious to protect the Commercial Bank from going into liquidation. Senior figures in the government may well have known that the Commercial's had plans to suspend as early as the 10th of March. 18 The Chief Justice, Sir John Madden, would have been involved in any such discussions as he acted as Administrator in the absence of the Governor, the Earl of Hopetoun, and was a member of the Executive Council from the 26th of January until the 11th of May. 19 Pressure from the Treasurer forced the Associated Banks of Victoria to publish a statement on the 14th of March indicating its support for failing banks, notably the Commercial. 20 However, a retraction the following day only increased suspicion about the safety of individual banks. Later he arranged an agreement between the government and the banks to make £1.9m available to the Commercial, an offer it rejected.²¹ Moreover, he attended the meeting of creditors of the Commercial Bank on the 24th of April where he stated he was "sure that anything the Ministry can do to facilitate the reconstruction of this bank they will only be too glad to do."22 The proclamation on the 27th of February of the Banking Companies' Shares Sale and Purchase Act making the short selling of bank shares a misdemeanor may have delayed the panic amongst shareholders, although the horse had long bolted.²³ Uncertainty was increased by the proclamation of a five day bank holiday on the 30th of April by the unfortunate Carter²⁴ which was ignored by the strong banks.

Both New South Wales and Queensland governments undertook action to alleviate the crisis in their colonies. In an attempt to retain confidence in bank notes, which were not first charge on bank assets in New South Wales, the government legislated to make bank notes legal tender for six months, with the assent of the Bank Issue Act on the 3rd of May. However, all but one of the banks did not wish to be party to the action. Consequently, the Act was not proclaimed until after the suspension of the Commercial Banking Company of Sydney on the 16th. In New South Wales the passage of the Current Account Depositor's Act, assented to on the 26th of May, promised to pay half of the locked up current account deposits. This may not have had much benefit as the Commercial Banking Company of Sydney had released its

¹⁸ R. J. Wood, *The Commercial Bank of Australia Limited: History of an Australian Institution* (North Melbourne, Vic., 1990): 182.

¹⁹ Hughes and Graham, Handbook of Australian Government, 101.

²⁰ Merrett, "Preventing Bank Failure", 126. The Treasurer, G. D. Carter, was a director of the Bank of Victoria which suspended on 10 May, and also a depositor in the Commercial Bank. Wood, The Commercial Bank, 182; Henry Rosenbloom, "Carter, Godfrey Downes (1830-1902)", Australian Dictionary of Biography, http://adb.anu.edu.au/biography/carter-godfreydownes-3174/text4573, accessed 15 August 2012.

21 Australasian Insurance and Banking Record (April, 1893), 236.

²² Australasian Insurance and Banking Record (April, 1893), 239

²³ Boehm, *Prosperity and Depression*, Chart 40, 283.

²⁴ Rosenbloom. "Carter".

current accounts.²⁵ The Queensland National Bank enjoyed a particularly strong relationship with the government. In 1896 after the death of Drury, the Bank's general manger, it was discovered that the company was hopelessly insolvent. The government rushed through the National Bank of Queensland Guarantee Act to safeguard depositors until a revised reconstruction scheme was put in place in 1897.²⁶

What remedies were available to creditors in banks that might be driven to failure by an inability to pay out in notes or gold coin or which were insolvent? Their rights were determined by the extant company law, Companies Act 1890, drawn from British joint stock companies acts: the stark choice was liquidation, through the alternatives of voluntary or compulsory winding up and voluntary winding up under the court's supervision, or trading on in the hope of recouping the losses. The collapse of the land boom in 1891 brought about a rise in personal bankruptcies and company failures of those speculating in property and shares. Politicians caught up in the failures rushed through new legislation, the notorious Voluntary Liquidation Act 1891, which "by protecting companies from being forced into winding-up under court control and allowing voluntary liquidation to proceed unrestricted, ... facilitated concealment of mismanagement and outright fraud".27 The new legislation increased the likelihood of liquidation of any bank which was to suffer a loss of its depositor's confidence.

Help came from an unexpected quarter. Agar Wynne, a member of the Legislative Council, introduced a private members bill to repeal the Voluntary Liquidation Act and to amend the Companies Act in May of 1892.²⁸ Inter-alia, Wynne argued that the current legislation made it too easy for firms to be liquidated in a manner which did not respect the rights of all creditors.²⁹ Making little headway with his grand plan, Wynne proposed on 7 September to split the Bill into two parts, "one of those parts dealing with the repeal of the Voluntary Liquidation Act, and [the other] embodying clauses with reference to compromise similar to those provisions in force in New South Wales." Carter, speaking on the 24th of November,

²⁵ Boehm. Prosperity and Depression, 314-5; Australasian Insurance and Banking Record (July,1893): 662. ²⁶ G. N. Blainey, *Gold and Paper: A History of the National Bank of Australasia Limited*

⁽Melbourne, 1958): 212-15.

John Waugh, "The Centenary of the Voluntary Liquidation Act 1891", Melbourne University Law Review, 18 (June, 1991-92): 174. For descriptions of commercial practices of the time see Geoffrey Serle, The Rush to be Rich: A History of the Colony of Victoria 1883-1889 (Melbourne, 1971): Chapter 8; Michael Cannon, The Land Boomers (Melbourne, 1966).

²⁸ Wynne, Victorian Parliamentary Debates, Session 1892-93, v. 69, 31 May,1892, 213; John Waugh, "Company Law and the Crash of the 1890s in Victoria," University of New South Wales Law Journal 15 (1992), 381.
²⁹ Wynne, Victorian Parliamentary Debates, v. 69, 394.

³⁰ Wynne, Victorian Parliamentary Debates, v. 69, 1446.

presciently suggested that the Bill "should deal with companies which were not yet defunct but which, if they did not get some legislative assistance, might become defunct." The rules of the game were changed when the *Companies Act Amendment Act* 1892 was enacted in December which was a copy of the sections dealing with reconstruction from the British *Joint Stock Companies* Act 1870. The pendulum had swung towards a court sanctioned process which was based on an easy test for compromise or reconstruction only months before the banking collapse.

The Court noted that

before sanctioning a scheme for compromise or arrangement made between a company and its creditors under the Companies Act Amendment Act 1892 (No. 1269). secs. 3 or 4, the Court will consider whether or not the scheme proposed is such that men of business might reasonably come to the conclusion that it was a fair scheme and likely to be beneficial to all classes of creditors concerned. Subject to this, it is the intention of the Act that the majority of the creditors should be allowed to bind the minority, but the Court must be satisfied that as far as possible the approval of the majority was founded on sufficient information as to the financial position of the company.³²

The reception by the Court of the scheme of arrangement put before it by the Commercial Bank of Australia was of critical importance. If the proposal was rejected, delayed or seriously modified one can conjecture that the creditors of others banks would have increased pressure on their own institutions. If banks started selling assets on a falling market to raise cash, then the moment would have arrived when insolvency rather than illiquidity was the issue for most banks. In these circumstances it is likely that the crisis would have been far more severe and the banking system deeply compromised. No attempt has been made to undertake a formal analysis of this counterfactual. Rather, I identify a number of plausible assumptions about what might have happened. For instance, only a handful of banks may have survived, the contenders being the Bank of New South Wales, the Union Bank of Australia and the Bank of Australasia. However, they lacked the capital and human resources to meet the banking needs of the whole country in terms of providing bank notes, the domestic and international payments systems, accepting deposits and making loans. The government owned savings banks in each of the colonies did not possess the capabilities or the branch networks to offer the range of services provided by the defunct

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³¹ Carter, Victorian Parliamentary Debates, v. 70, 3014.

³² Much of this paragraph draws from *In re the Commercial Bank of Australia Limited*, *Victorian Law Reports* 1893, 333-80. Emphasis added. 333.

trading banks. Some form of public sector bailout may have been necessary, possibly nationalization of the private banks via government capital injection. The fresh capital to be provided by shareholders in the reconstructed banks operating in Victoria, including two British banks, the English, Scottish & Australian Chartered Bank and the London Chartered Bank of Australia, was £4.7m.³³ Raising a comparable sum would have placed great burdens on the government resources of that colony which in 1893 collected only £2.5m in tax and whose total annual revenue was £6.9m.³⁴ The chaos prior to any such bailout and the terms of the bailout itself may have led to a budget blow out which in turn might have triggered a crisis in sovereign debt and currency markets.

The petition for compulsory winding up was presented to and accepted by Holroyd, J, of the Victorian Supreme Court. 35 Following the subsequent meetings of the creditors and shareholders on the 24th of April, a motion seeking reconstruction was heard by Madden, a Chief Justice of four months standing.³⁶ Madden, being persuaded by counsel that "a winding up at the present time would be disastrous to all concerned", permitted the reconstruction scheme to go ahead without a searching examination of the issues involved or mandating statutory meetings with creditors in both Australia and Britain. An appeal to the Full Court on behalf of British depositors against a number of elements of the scheme was heard mid-May. The three judges on the bench, including the highly experienced Holroyd, wrestled to interpret the extent of their authority under the new legislation and its British precedents. While nearly all of the matters of the appeal were rejected, it was clear that the judges had a number of concerns about procedural issues. However, the Court's decision to reject the appeal was influenced at the margin by the transfer of the assets of the old bank to the new bank before the appeal, and as many new customers had made deposits with the new Bank. To not sanction the scheme would harm the "new interests" which had been created.37

Fortuitously given what was about to unfold, the test proposed in the Act significantly increased the likelihood of reconstruction rather than liquidation. If more than three-quarters of the creditors at the meeting agreed to follow this course of action the Court had little ability to overturn that it decision unless the bench found it to be glaringly unfair or unreasonable.

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³³ Australasian Insurance and Banking Record (July, 1893), 688-91.

³⁴ Alan Barnard, "Government Finance" in Wray Vamplew, ed, *Australians: Historical Statistics* (Sydney, 1987): G51-75.

³⁵ I am greatly indebted to John Waugh of the Melbourne Law School for his guidance on these matters. He bears no responsibility for my interpretation. Personal communication with the author on 8 August and 11 August, 2012.

³⁶Ruth Campbell, "Madden, Sir John (1844-1918)", *Australian Dictionary of Biography.* http://adb.anu.edu.au/biography/madden-sir-john-7453/text12981, accessed 30 July 2012. https://adb.anu.edu.au/biography/madden-sir-john-7453/text12981, accessed 30 July 2012. https://adb.anu.edu.au/biography/madden-sir-john-7453/text12981, accessed 30 July 2012. https://adb.anu.edu.au/biography/madden-sir-john-7453/text12981, accessed 30 July 2012.

The Court felt constrained to reject the scheme on the basis of any doubts it might have about the financial position of the Bank. The Court needed to be satisfied that a full disclosure of the financial position was to be presented to the creditors at the meeting. In the judgement of the Full Court, Holroyd stated that "if an institution is unsound, it is better that it go into liquidation at once than its subsequent downfall should inflict a more widespread disaster."38 However, the Court felt that it was not for it to decide whether the institution was insolvent. Holroyd argued that "even if the Court had before it all the materials relating to the bank's position, the Court would find it difficult to pronounce an opinion as to what might be the ultimate success of a large institution like this". 39 It's unwillingness to do so saved the day given the Commercial's revealed losses rose from £0.8m at the time of its suspension to £3.0m, with another £1.5m of non-performing assets held in an off balance sheet Special Assets Trust Company⁴⁰ George Meudell, a plaintiff in the case, reflected long after the event that "when this bank failed in 1893 it should have stayed shut. It was in the most awfully putrid state, for out of its £13,000,000 of assets only about £2,000,000 were realizable."41 Margot and Alan Beever, having access to the Bank's internal records, imply that it was insolvent at the time of its suspension and remained so throughout the nineties.⁴²

The wording of the Act tied the hands of the judges. Reconstructions were readily obtained. The decision in the Commercial case served as the template for the others which followed, suspending and re-opening even before the Commercial's appeal had been completed. New laws supported the reconstruction process. New South Wales's Joint Stock Companies Arrangements Act, which was assented to in January 1892, was identical to Victoria's Companies Act Amendment Act. Queensland followed suit in 1894. 43 Importantly, Reconstructed Companies Acts, were passed in Victoria in 1893 and in New South Wales in 1894, respectively. These Acts facilitated the transfer of business being done within Britain to their reconstructed counterpart.⁴⁴ Moreover, they waived stamp duty on the transfer of books from the old banks to the new, saving the new banks from an administrative nightmare and a crippling tax bill. 45

³⁸ Victorian Law Reports 1893, 369.

³⁹ Argus (16 May, 1893): 7. This quotation was brought to my attention by John Waugh.

⁴⁰ Merrett, "Preventing Bank Failure", Tables 4 & 5, 136-7.

⁴¹ George Meudell, *The Pleasant Career of a Spendthrift* (London, 1929): 79.

⁴² Margot Beever and Alan Beever, "Henry Gyles Turner" in R. T. Appleyard and C. B. Schedvin, eds., Australian Financiers: Biographical Essays (South Melbourne, 1988), 130-

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43</sup> H. E. Teare, A Digest of Australian and New Zealand Banking and Currency Legislation (Sydney, 1926): 58. 44 Waugh, "Company Law", 366 and 369.

⁴⁵ Reconstructed Companies Act 1893, Victoria Act 1356, section 8.

The bank crashes and the depression

The existing literature has surprisingly little to say about the role of the bank crash in explaining the timing, depth or duration of a depression which in many respects was more severe than that of the 1930s. 46 Boehm's seminal study 7, for instance, does not give the bank crash a central role in causing the depression. He argues that the depression resulted from an intersection of the creation of structural imbalances, excess physical capital stock, arising from over investment and from a tightening of credit in London. Exuberant lending by banks and other financial intermediaries had facilitated the emergence of asset bubbles. As economic activity slowed, asset values tumbled and bankers were left with impaired loan books. A tipping point was reached in early 1893 where many of them faced critical liquidity and solvency issues resulting in reconstructions and liquidations. Having purged the excesses of the speculative boom by writing off assets, the banks struggled to rebuild their balance sheets in a depressed economy. However, Boehm argues that the causation flowed both ways as the "rehabilitation" of the banks resulted in "a severely contractionary credit policy throughout the remainder of the nineties [which] contributed greatly towards the protracted nature of the recovery."48

Tables 1, 2, & 3 around here

In Table 1 we see that the level of GDP had peaked in all six colonies years before the bank crash. Moreover, the trough of the depression occurred either before or at the same time as the crash in three of the colonies. A recent study of multi-country crises suggests that banking crises led to severe recessions, ⁴⁹ and that the American experience shows that "recessions associated with financial crises are generally followed by rapid recoveries". ⁵⁰ The Australian experience fits with the first claim, but not the second. Recovery, measured in terms of national GDP exceeding the earlier peak, was protracted taking nine years. The impact of the depression differed markedly across the country. For instance, Victoria suffered a contraction of a third in its GDP between 1890 and 1894 and took until 1907/08 to overtake its earlier peak. Do regional differences in the credit boom of the 1880s explain the variation in GDP movements? Table 2 shows that bank advances as a proportion of GDP grew fastest in Victoria and Queensland between 1880 and 1892. Victoria was home to

⁴⁶ Fisher and Kent, "Two Depressions, One Banking Collapse", 3-6.

⁴⁷ Boehm, *Prosperity and Depression*, 322-25.

⁴⁸ Boehm, *Prosperity and Depression*, 325.

⁴⁹ Bordo and Landon-Lane, "Global Financial Crisis", 24 and 28.

⁵⁰ Michael D. Bordo and Joseph G. Haubrich, "Deep Recessions, Fast Recoveries, and Financial Crises: Evidence from the American Record", *NBER Working Paper Series*, Working Paper 18194 (June 2012): 1-2 and 11.

banks which accounted for more than a half of the national total of loans and had the largest losses. Table 3 supports the intuition that Victoria would suffer the deepest and longest lasting depression. However, Queensland, which experienced a comparable credit binge, did not. Other colonies, most importantly New South Wales which escaped a Victorian style banking boom and crash, suffered deep and long lasting depressions. Clearly, multiple factors are at work here, including droughts, swings in commodity prices, gold discoveries in Western Australia, flexibility in labour market adjustment, deflation and so on which make disentangling the impact of the bank crashes on the depression and the process of recovery difficult. Experience of the bank crashes on the depression and the process of recovery difficult.

While economic activity peaked in all colonies years before the bank crash we will identify two channels through which the crash did directly contribute to the severity and duration of the depression. We are not in a position to say which played the most important role in transmission. The first, discussed below, is the slower credit growth after the crisis. The crash precipitated a long and deep decline and slow recovery in bank lending as shown in Table 3. However, it is difficult to determine whether this was a cause or consequence of the depression. Banks did accommodate themselves to falling demands for credit from their customers whose incomes were shrinking. Businesses and households were deleveraging their balance sheets as the asset bubble unwound. The excess of physical assets in the housing and pastoral sector dampened demand for new investment. The behavior of interest rates suggests that demand for bank loans fell. Nominal interest rates charged for bank loans declined from nine per cent in March 1891 to a trough of six per cent in 1897, and the spread between lending and deposit rates remains steady across the period. 53 Banks did slow the growth of credit by changing the way they managed their balance sheets. The total assets of the private banks fell by 25 per cent from 1892 to a trough in 1899. Both the amount of bank advances and the money supply, M2, fell more sharply, by 35 and 47 per cent respectively.⁵⁴ Holdings of cash grew relative to deposits, and earnings and fresh investment made by shareholders as a result of the reconstruction schemes were siphoned off to rebuild reserves. The amount of lending relative to the deposit base fell.

⁵¹ Advances by colony from Butlin, Hall & White, *Australian Banking and Monetary Statistics*, Tables, 13-18; 166-276. Capital write offs from Merrett, "Preventing Bank Failure", Table 5,137.

⁵² Boehm, *Prosperity and Depression*, chapter 11; W. A. Sinclair, *Economic Recovery in Victoria 1894-1899*, (Canberra, 1956). For a recent account of the complexity of this episode see Ian W. McLean, *Why Australia Prospered: The Shifting Sources of Economic Growth* (Princeton and Oxford: 2012), 113-32.

⁵³ Butllin, Hall and White, *Australian Banking and Monetary Statistics,* Table 51, 494.

⁵⁴ Butlin, Hall and White, *Australian Banking and Monetary Statistics*, Table 12, 148-52, and Table 2 above.

Table 4 around here

The second channel between the bank crash and the depression resulted from the reconstruction arrangements made between financial institutions, their creditors and shareholders. The reconstruction schemes greatly reduced the wealth of bank creditors, who agreed to hold illiquid long-dated securities or preference shares, and of shareholders who were forced to pay calls for fresh capital and ranked behind depositors and preference share holders' interest before receiving dividends. Table 4 presents estimates of movements in the money stock because of the impact of the reconstruction schemes as indicators of the burden borne by depositors within Australia, British deposit claims having been netted out. 55 These are national figures. We suggest that the fall in the money supply in Victoria would have been higher than elsewhere. The key results are that M2 and M3 fell by over 40 per cent from peak to trough, and recovered slowly. Even after adding back a discounted market value of locked up claims once a secondary market is established, on the unrealistic assumption that all long-dated deposit claims were immediately sold into that market, M2* and M3* still contract by around 20 per cent. These falls represent a range of 33 to 14 per cent of Australia's GDP in 1893. The comparable decline would have been far higher in Victoria. These falls dwarf those occurring in the 1930s. In that depression, M3 contracted by 11 per cent on an annual basis and 14 per cent on a quarterly basis between March 1928 and June 1931.⁵⁶ Moreover, Boris Schedvin includes net assets held abroad by Australian banks, "London funds", as part of their cash holding or high powered money, in his analysis of the relationship between changes in the stock of money and the real economy. The willingness of the banks to let their reserve ratios fluctuate in a counter cyclical way leads him to conclude there was not "any significant relationship between contraction of the money stock and the fall in income and employment." ⁵⁷

What happens to the wealth of bank shareholder's caught up in the reconstruction schemes? The data set is far thinner than for depositors but the story seems worse. Merrett argues that the market value of most Victorian banks was already below book value prior to the onset of the crash.⁵⁸ While Hall calculates that the value of shares in "Melbourne banks" contracted by more than 80 per cent between 1889 and 1900. Moreover, the value of all bank shares,

⁵⁵ David Merrett, "The 1893 Bank Crashes and Monetary Aggregates", Research Discussion Paper 9303, Reserve Bank of Australia (Sydney, 1993): Table 4 and 6, 12 and 15.

⁵⁶ C. B. Schedvin, Australia and the Great Depression: A Study of Economic Development and Policy in the 1920s and 1930s (Sydney, 1970): 207 and Table C-1, 384-7; C. B. Schedvin, "A Century of Money", *Economic Record* 49 (December, 1973): 601-5. Schedvin, *Australia and the Great Depression*, 209-10.

⁵⁸ Merrett, "The 1893 Bank Crashes", Table 3, 134-5.

presumably including the Sydney and British banks, listed on the Stock Exchange of Melbourne, more than halved.⁵⁹

Table 5 around here

The unwinding of the asset bubble had considerable wealth effects. Table 5 shows the significant fall in residential property values, around 40 per cent, in Sydney and Melbourne, and a long period to recovery. Moreover, values for various classes of securities on the Sydney Stock Exchange also exhibited heavy falls and slow recovery, especially for financial shares. Balance sheets of households and business were shrunk further by the reduced value of their claims against banks. A crude measure of this impact is to compare the fall in the value of M2 and M3 to GDP in 1893, roughly a third. We can assume that reduced income from the ownership of financial assets and associated dis-saving would have depressed expenditure below what it otherwise would have been, contributing to lower production and rising unemployment. However, for those with cash and a sharp eye for business accumulating cheap assets laid the foundations for future riches. ⁶⁰

A contraction in the value of assets on this scale begs the question of why the depression was not more severe and last even longer than it did. Fortunately, the full effect of liquidation and reconstruction schemes was diluted by foreign ownership. Roughly 40 per cent of bank deposits were owned by British residents, and three-quarters of these were with banks that suspended. Moreover, British depositors held around 45 per cent of claims in suspended land banks and building societies. Australian banks lent heavily to the pastoral industry but escaped the full force of low commodity prices and the drought through the greater exposure of specialist intermediaries whose major investors and creditors were also British. The Australasian and Insurance and Banking Record estimated that British investors had committed £18m in shares and £28m in debentures in pastoral companies, and British insurance companies had invested another £7m on mortgage against squatting properties.

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⁵⁹ A. R. Hall, *The Stock Exchange of Melbourne and the Victorian Economy 1852-1900* (Canberra, 1968): Table 12, 230.

⁶⁰ Peter Yule, *William Lawrence Baillieu: Founder of Australia's Greatest Business Empire*, (Melbourne, 2012): Part 2.

⁶¹ Boehm, *Prosperity and Depression*, Tables 65 and 67, 272 and 279.

⁶² Boehm, *Prosperity and Depression*, Table 64, 263

⁶³ N. G. Butlin, *Investment in Australian Economic Development 1861-1900,* (Cambridge, 1964): 159.

⁶⁴ Australasian Insurance and Banking Record, (September, 1893): 847-9.

the banks down the path of reconstruction.⁶⁵ Yields on investments fell heavily as reconstruction schemes, falling profits and interest rates cut share values and dividends.

Table 6 about here

For two decades up the World War I, British investors liquidated large amounts of their portfolio positions in Australian activities. The British quit their deferred deposits upon maturity, leading to a radical and swift shift in the composition of the balances held by banks in London from a net liability of £24m 1892 to a net credit of £0.2m in 1899. Robert Nash's calculations shown in Table 6 highlight the growing importance of Australian and New Zealand ownership of claims against corporations and governments relative to the British investors, and the absolute fall in the value of claims against private sector entities by the British. This is more than a reduction in capital raising by non-mining Australian firms in London. Existing claims were being liquidated or sold to Australian resident holders.

The losses suffered by British investors in the 1890s signaled a change in the relationship between the two countries in terms of capital exports. Australian governments returned to the British capital market on a large scale before WWI and in the 1920s. However, we suggest that passive portfolio investment by Scottish widows was replaced by foreign direct investment by British companies in a new range of industries. It is difficult to know when the balance shifted decisively in favour of FDI by British multinationals. In the second half of the nineteenth century much of direct private capital inflow from Britain had taken place through the agency of "free-standing" British registered firms, principally merchant houses and in resource exploiting activities, whose operations were located in overseas. There was a shift towards direct investment in Australia by the more conventional twentieth century multinational whose overseas subsidiaries were minor adjuncts to home market activities. By

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⁶⁵ Butlin, *Investment*, 436-40. For an account of the reconstruction schemes of the pastoral financiers see David Merrett, Stephen Morgan and Simon Ville, "Industry Associations as Facilitators of Social Capital: The Establishment and Early Operations of the Melbourne Woolbrokers' Association". *Business History*, 50, (November, 2008): 783-4.

⁶⁶ S. J. Butlin, A. R. Hall and R. C. White, *Australian Banking and Monetary Statistics 1817-1945* (Sydney,1971): Table 4 (ii), 126.

⁶⁷ A. R. Hall, *The London Capital Market and Australia 1870-1914* (Canberra, 1963): Table

⁶⁸ P. L. Cottrell, "Great Britain", in Rondo Cameron and V. I. Bovykin, eds., *International Banking 1870-1914*, (Oxford, 1991): 28-9.

⁶⁹ Mira Wilkins, "The Free-Standing Company, 1870-1914: An Important Type of British Foreign Investment", *Economic History Review* 2nd series, 41 (1998): 259-82.

the 1930s, more than 80 leading British and American manufacturing companies had set up factories in Australia behind the rising tariff wall.⁷⁰

Responses to the bank crashes

What happened next? Peter Love wrote that "the depression of the 1890s left a profound impression on the minds of a whole generation of Australians and accentuated a number of concerns that helped shape the nation in the twentieth century." How did Australia respond to the banking crisis? Why was no action taken to ensure that a repeat of this type of banking failure was less likely such as formal collective agreements about prudential standards enforced through clearing house associations as in the United States of America or the establishment of a central bank with prudential oversight? The varied reactions of the key actors, the customers, the banks, and the state, provide some clues.

The bank's customers returned. For those who only wanted a savings instrument there were alternative and seemingly safer places to earn interest on savings, and the trading banks lost deposit market share to the savings banks and life office's industrial policies up to WWI. Deposits in trading banks had barely recovered their 1893 level by 1903 but grew by 61 per cent to 1913 to be still nearly double those in the savings banks. However, those seeking credit or making payments had fewer alternatives. Banks were still the dominant providers of credit to high net worth individuals and businesses. Moreover, the banks continued to enjoy their monopoly in the provision of domestic and international payments system. They alone provided checking accounts, and organized inter-bank clearing through local clearing houses. Extensive networks of correspondence arrangements with foreign banks allowed them to make and receive payments for importers and exporters, and capital transfers inward and outward. The bank's revenue base was further protected by transaction fees on clearances, foreign currency conversion, and running a bill book at their London Branch.

The banks battened down their hatches and hung on during the 1890s. Survival was the immediate focus and salvation came with the breaking of the drought, rising commodity prices, renewed immigration and rising government spending in the new century. Once the obligations incurred as part of the reconstruction schemes had been paid off around 1900

⁷⁰ Colin Forster, *Industrial Development in Australia 1920-1930* (Canberra, 1964), Appendix III, 230-32.

⁷¹ Peter Love, *Labor and the Money Power* (Melbourne, 1984): 20.

⁷² Butlin, Hall and White, *Australian Banking and Monetary Statistics*, Tables 1, 113-4 and Table 53(ii), 502-3.,

⁷³ David Merrett, "Paradise Lost: British Banks in Australia" in Geoff Jones, ed., *Banks as Multinationals* (London, 1990):62-84; David Merrett, "Global Reach by Australian Banks: Correspondent Banking Networks 1830-1960" 37 (July, 1995): 70-88.

banks began rebuilding their holdings of cash overseas and locally, and adopting a conservative approach to lending.⁷⁴ Their actions could be construed as self-insuring against any further calamity. However, this was the result of commercial decisions made within each bank in accordance with the canons of sound banking. Boards of directors, some of whom had special places for those representing the preference share holders, played a far more active role in the affairs of their banks. Executive authority was diminished in both the weak and the strong as the directors of both the Commercial Bank of Australia and the mighty Union Bank of Australia assumed executive responsibilities.⁷⁵

Why was there such a lack of imagination, intellectual curiosity and urgency in the response of the banking community? Part of the explanation may lie in the human resource practices of these institutions. The emergence of internal labour markets towards the end of the nineteenth century trained workers in bank-specific functional skills. These closed labour markets were not conducive to the emergence of new ideas or of encouraging to mavericks reaching the top. Even those British banks operating in Australia had no transfer of staff between the two countries, and firsthand experience of the Bank of England's role as a central bank in the City was limited to the small number of British staff in the London offices. Moreover, the closure of the Australian market to foreign banks closed another avenue of new ideas and different experiences which might have widened the horizons of local bankers.

What of the state? While Australia did have a "free banking" regime through the nineteenth century, there were minimal restrictions on entry, no controls on interest rates or balance sheet ratios, and bank issued their own notes, ⁷⁶ politicians were giving serious thought to some form of central banking in the 1890s. One reason for the absence of a government bank prior to this point was that two functions often carried by central banks at the time, issuing and managing government debt and issuing bank notes, were dealt with by other means. The borrowings of the independent colonies were handled by a combination individual and consortium of "domestic" banks, particularly the Associated Banks of Victoria, ⁷⁷ or external institutions such as the London & Westminster Bank and the Bank of

⁷⁴ Schedvin, "Century of Money", 598; Merrett, "Australian Banking Practice", 83-4.

⁷⁵ For the Commercial Bank see Beever and Beever, "Henry Gyles Turner", 129-32. For the Union Bank see Butlin, *Australia and New Zealand Bank*, 318-19; and David Merrett, *ANZ Bank: A History of the Australia and New Zealand Bank and Its Constituents* (Sydney, 1980): 47-48.

⁷⁶ David T. Merrett, "The State and The Finance Sector: Evolution of Regulatory Apparatus", *Australian Economic History Review*,42 (2002), 270.

⁷⁷ Butlin, Australia and New Zealand Bank, 142-45 and 178-81.

England.⁷⁸ Moreover, the local banks issued notes which were fully convertible into coin. Robin Gollan wrote "one of the responses to [the crash] was a demand for a national bank and currency, more emphatic, more extensive, and somewhat more precise than ever before."⁷⁹ The constitution of the new federation in 1901 gave power to the Commonwealth to make laws with respect to banking. Political parties from the right and the left in the federal parliament were thinking long and hard about creating a national bank. Sir John Forrest, Treasurer in Alfred Deakin's Ministry of 1905-07, was corresponding with the Bank of England on detailed points of policy regarding a national note issue.⁸⁰ The turn of the electoral cycle provided the Labor Government of Andrew Fisher, with majorities in both Houses, to introduce legislation with respect to both the note issue and to establish the Commonwealth Bank of Australia in 1910 and 1911 respectively.⁸¹

The Commonwealth Bank of Australia grew in stature and influence, with its powers significantly enhanced by amending legislation in 1924, before becoming a full blown central bank in the early years of WWII. In hindsight, there was no grand plan. Geoffrey Sawer reflected that "... in the period of its foundation, when particularly feared for its socialist implications, the Bank was least equipped to carry out its ambitious plans for economic control, and the Fisher government (to the disgust of the Bank's ideological father, King O'Malley) had almost no notion how to use it for such purposes." Rather the Bank responded to the most pressing matters of the day whether these were financing rural producers or raising war loans during WWI, or coping with the emerging problems facing the Australian economy in the 1920s and 1930s. There were a multitude of pressures, not the least from the Bank of England, for the creation of a central bank in Australia. It did evolve into a policy maker, with considerable independence from the governments of the day, on a range of monetary matters, refusing to fund government debt and devaluing the Australian pound in the Depression. The power it exercised came from amendments to its governing

⁷⁸ Bernard Attard, "Imperial Central Banks?: The Bank of England, London & Westminster Bank, and the British Empire before 1914", paper presented at the Eighth International Conference of the Historical Mission of the Bank of France, Paris, 15 and 16 March 2012. http://www.banque-france.fr/la-banque-de-france/histoire/mission-historique/colloques-et-publications/8eme-colloque-international-de-la-mission-historique.html.

⁷⁹ Robin Gollan (1968), 27. L. F. Giblin, *The Growth of a Central Bank: The Development of The Commonwealth Bank of Australia 1924-1945* (Melbourne, 1951).

⁸⁰ Documents on Australian Monetary and Financial History, Volume 1, Reserve Bank of Australia (Sydney, 1993): Documents 4-9, 5-15.

⁸¹ Geoffrey Sawer, Australian Federal Politics and Law 1901-1929 (Melbourne, 1956): 89-91.

⁸² Sawer, Australian Federal Politics and Law, 91.

 ⁸³ C. C. Faulkiner, The Commonwealth Bank of Australia: A Brief History of its Establishment, Development and Service to the People of Australia and the British Empire (Sydney, 1923).
 ⁸⁴ Schedvin, Australia and the Great Depression, passim.

legislation in 1924 and from the accumulation of skill and experience of its board and executive staff, most of whom were drawn from the second-tier of management of the private banks. Private bankers fought as best they could against the growing diminution of autonomy in their affairs. However, on the eve of the Japanese attack on Pearl Harbour, the private banks still enjoyed complete freedom from central bank control over the composition of their balance sheets, the ability to lend to whomever they pleased and to set interest rates. Prudential regulation was not yet part of the remit of the Commonwealth Bank of Australia.

The inability to respond directly to the issues of financial instability for decades afterwards is a puzzle. This inaction contrasts with the political will to federate and to create a host of new institutions to deal with particular problems such as regulating the labor market and setting minimum wages, forming the Loan Council to coordinate international borrowing by the States and the CSIR to promote research. Could it have been that gaining an understanding of what needed to be done about instability in the Australian financial system in the 1890s and 1900s was just too difficult? There were no easily identifiable models to adopt. The evolution of central banking in the northern hemisphere in the late nineteenth century was an intuitive and organic process shifting shape between countries and embedded within country-specific institutional frameworks. By contrast, a generation later Australian economists, employed by universities and having strong intellectual links to Britain, rose to the challenge of the policy issues thrown up by the 1930s depression.

Could it be that customers, bankers and governments, both politicians and bureaucrats, came to believe that because there was no repeat of the episode then all was well? The great shocks of the new century, two wars and a depression, did not result in a banking crisis. Post-WWII monetary policy imposed tight liquidity ratios as a by-product of its management of bank credit. When financial deregulation in the 1980s permitted banks to once again lend with abandon and doubts arose concerning the solvency of some, the Reserve Bank of Australia found its cupboard of prudential controls embarrassingly bare.

Conclusion

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⁸⁵ For a perceptive account from the point of view of the private banks in their dealings with the Federal government and the Commonwealth Bank of Australia, see S. J. Butlin, *Australia and New Zealand Bank*, 340-54, 356-59 and 366-76.

⁸⁶ Charles Goodhart, *The Evolution of Central Banks: A Natural Development?* (London,1985).

⁸⁷ William Coleman, Selwyn Cornish and Alfred Hagger, *Giblin's Platoon: The Trials and Triumphs of the Economist in Australian Public Life* (Canberra, 2006).

Many commentators have expressed incredulity at the enthusiastic reception given by the Commercial Bank's shareholders at the Melbourne meeting to endorse the proposal to reconstruct. We argue that the critical decisions which determined the outcome of the banking crisis were made in the legislature and the courts. The passage of the *Company Act Amendment Acts*, first in New South Wales, prior to the suspension of a major bank determined the outcome of the crisis. Judges had little discretion to reject or amend the proposal before them to reconstruction once three-quarters of the creditors at the meeting voted in favour. Consequently, Australia had a far softer landing than it would have experienced if there had been wholesale liquidation of its banks in 1893.

The reconstruction schemes set the terms for the workout of failed banks. The bargain was that both creditors and owners shared the pain by deferring claims and ownership rights for lengthy periods. There were externalities associated with these contracts, the banking system continued to function and the private costs to the parties spilled over into the real economy. The reduced wealth of depositors and shareholders depressed spending. We can estimate the loss of wealth suffered by depositors. The upsurge in British deposits held by Australian banks has been seen as a contributing factor to the excessive growth of credit and their term of maturity as a source of instability. However, the negative wealth effect on the Australian economy was reduced by much of it falling on non-residents. British investors were heavily exposed to other non-bank financial intermediaries who suffered losses. Not surprisingly there was a large scale withdrawal of British private portfolio investment from Australia before WWI.

The lack of a targeted response at the time to prevent a reoccurrence to the crisis remains a puzzle. On one level, the crisis solved itself through workouts whose parameters were set by a series of court sanctioned private treaties between the parties involved. The economy eventually resumed growth. We muddled through. To my knowledge, there was no articulated view that a private rather than a public intervention was the optimal response. On the contrary, at this time the character of the Australian polity had a decidedly interventionist bent. The powers of the state rose as a consequence of Federation in 1901, and political parties fought to use the authority and resources available to government. However, bank reform to provide for prudential regulation was lost amongst the plethora of other initiatives for generations, partly because in the absence of another bubble generating wide spread instability at the core of the financial system prudential issues were not seen as important.

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⁸⁸ Boehm, *Prosperity and Depression*, 275.

Table 1: Nominal GDP peak, trough and years to recovery

Colony/state	Year peak	Year	Year	T/P%	Years to	Years to
		trough	recovery		trough	recovery
NSW	1891	1895	1903/4	76	4	10
Victoria	1890	1894	1907/8	66	4	15
Queensland	1888	1891	1894	93	3	4
SA	1890	1895	1905/6	70	5	12
Tasmania	1889	1893	1899	74	4	7
WA	1889	1890	1892	95	1	3
Australia	1889	1895	1903/4	66	6	9

Source: W. A. Sinclair, *Annual Estimates of Gross Domestic Product: Australian Colonies/States 1861-1976/77* (2009), http://arrow.monash.edu.au/hdl/1959.1/88855; N. G. Butlin, *Australian Domestic Product, Investment and Foreign Borrowing 1861-1939* (Cambridge, 1962): Table 1, 6.

Year of recovery is when GDP exceeds that of previous peak.

Table 2: Bank advances as proportion of nominal GDP in 1880 and 1892, by colony and Australia

	NSW	VIC	QLD	SA	WA	TAS	Australia
1880	34.2	39.4	35.6	29.2	28.6	26.3	34.0
1892	59.5	89.8	91.6	52.1	64.7	40.8	73.7

Bank advances from Butlin, Hall and White, *Australian Banking and Monetary Statistics* (1971): Table. GDP data from Sinclair, *Annual Estimates;* and Butlin *Australian Domestic Product*, Table 1, 6.

Table 3: Trading bank advances by colony, peak, trough and recovery

	Peak	Trough	Years P-T	T/P%	Recovery	Years T-R
NSW	1892	1900	8	73	1912	12
Vic	1892	1905	13	54	1921	16
Qld	1889	1900	11	70	1916	17
SA	1890	1900	11	45	1916	17
Tas	1891	1897	7	55	1921	24

Butlin, Hall & White, Australian Banking and Monetary Statistics, Tables 13-18, 166-276.

Year of recovery is when bank advances exceeds that of previous peak.

Table 4: Money supply adjusted for deferred deposits within Australia

	Peak	Trough	Years P-T	T/P%	Recovery	Years T-R
M1	1890	1893	3	82	1895	2
M2	1890	1893	3	53	1907	14
M3	1892	1893	1	59	1902	9
M2*	1890	1894	4	78	1906	8
M3*	1892	1893	1	83	1900	7

Merrett, "The 1893 Bank Crashes and Monetary Aggregates", Table 4, 12 and Table 6, 15.

M1 Currency plus trading bank demand deposits; M2 Currency plus trading bank demand and time deposits; M3 Currency plus all trading bank and net savings bank deposits; M2* with "market value" of deferred deposit receipts added back; M3* with "market value" of deferred deposit receipts added back.

Table 5: Decline in value of house and security prices in Melbourne and Sydney

	Peak	Trough	T/P%	Recovery
Melbourne house	1891	1903	63	1917
Sydney house	1890	1898	59	1913
Sydney financial shares	1890	1894	41	1922
Sydney industrial & commercial shares	1889	1894	69	1903
Sydney mining shares	1890	1895	20	After 1910

Source: House prices form Nigel D. Stapleton, "Long Term Housing Prices and Some Economic Perspectives", unpublished PhD, Australian School of Business, School of Economics, University of New South Wales (2007): Tables 2.1 & 2.2, 58-61. Security prices from D. McL. Lamberton, "Some Statistics of Security Prices and Yields in the Sydney Market, 1875-1955", *Economic Record*, 34 (August, 1958): Table III, 259.

Table 6: Change in Australasian and British ownership of Australasian securities, 1899 and 1912/13, £m

	Australasia	Change 1899-	Britain 1899	Change
	1899	1912/3		1899-1912/3
Government debt	25	93	209	65
Local government	8	17	14	0
Bank securities	25	-5	19	-5
Non-mining	42	59	72	-20
Mining	28	-1	80	-51
Total	128	165	395	-11

Source: Robert L. Nash, *The Australasian Joint Stock Companies' Year-Book* (Sydney, 1899), xxvii and (Sydney, 1913/14), xxviii-xxix.

Note: Includes New Zealand public debt, bank deposits and corporate securities.